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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,185	08/20/2003	Paul Harris	21295.57(H5653US)	5557
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HOUSTON ELISEEVA				
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LEXINGTON, MA 02421				
EXAMINER				
PRAKASAM, RAMYA G				
ART UNIT		PAPER NUMBER		
3651				
MAIL DATE		DELIVERY MODE		
06/24/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/644,185

**Applicant(s)**

HARRIS ET AL.

**Examiner**

RAMYA PRAKASAM

**Art Unit**

3651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/1/2009 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6 and 9-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (US Patent No. 6,236,904) in view of Matsunaga (US Patent Application Publication No. 2003/0053893).

Nakamura discloses a substrate loading and unloading apparatus comprising a substrate holder with a substrate support table and locating means co-operable with the table (See Figure 1 and Column 3, lines 59-67 and Column 4, lines 1-12)., a vacuum vessel defining a loading and unloading chamber with a transfer port (See Column 3, lines 59-67 and Column 4, lines 1-12). which is communicable in use with an evacuated region, and release means for withholding cooperation of the locating means and the

table (See Figure 1) and providing a temporary substrate support clear of the table (See Figure 1).

Re Claims 2 -6: the locating means comprises resilient means to cause a supported substrate to be biased towards the table and defines a reference plane (sensor), where the reference plane is defined by three spaced apart contact points (See Column 3, lines 59-67 and Column 4, lines 1-12).

Re Claims 9-17: the apparatus has a release means comprising a displacing means with at least one displacing member movable to engage and depress the table (See Figure 2 and Column 4, lines 15-32), comprising a pusher and drive means.

Re Claims 18-42 and 46-53: Apparatus contains a temporary support means (1) movable upwardly through passage means in the table (See figure 4). The temporary support means comprises at least 3 support pins.

Re Claim 43: apparatus contains a transfer port (See Column 3, lines 59-67 and Column 4, lines 1-12).

Re Claim 44: vessel is substantially boxed shaped (See Figures)

Re Claim 45: apparatus is constructed as a module attached to a substrate processing machine (See Figures)

Nakamura, however, fails to disclose that the entire loading and unloading chamber be a hermetically sealed vacuum environment. Matsunaga discloses an apparatus for loading and unloading substrates where the entire chamber is a hermetically sealed vacuum environment (See Paragraph 34) for the purpose of removing oxygen and moisture from a semiconductor process (See Paragraph 34). It

would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify Nakamura by utilizing an apparatus for loading and unloading substrates where the entire chamber is a hermetically sealed vacuum environment for the purpose of removing oxygen and moisture from a semiconductor process.

4. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura in view of Matsunaga and further in view of Tanigawa (U.S. Patent Application No. 2001/0022930).

Nakamura in view of Matsunaga discloses all claimed limitations except for the use of a strong as a resilient mounting means. Tanigawa utilizes a spring (41) as a resilient mounting means for the purpose of holding a carrier containing a substrate (See Paragraphs 102 – 103). It would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify Nakamura in view of Matsunaga by utilizing a spring as a resilient mounting means for the purpose of holding a carrier containing a substrate.

5. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura in view of Matsunaga and further in view of Hassan (US Patent No. 3,968,885)

Nakamura in view of Matsunaga discloses all claimed limitations, except for the use of the apparatus in an electron beam-pattern writing machine. Hassan discloses the use of a substrate loading and unloading apparatus in a vacuum chamber in an electron beam-pattern writing machine (See Abstract) for the purpose of pattern writing without affecting the vacuum level in the chamber. It would have been obvious to a person of

ordinary skill in the art at the time of applicants invention to modify Nakamura in view of Matsunaga by utilizing a substrate loading and unloading apparatus in a vacuum chamber in an electron beam-pattern writing machine for the purpose of pattern writing without affecting the vacuum level in the chamber.

***Response to Arguments***

6. Applicant's arguments with respect to the rejection(s) of the claim(s) under 102(b)/103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Matsunaga.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RAMYA PRAKASAM whose telephone number is (571)272-6011. The examiner can normally be reached on Monday - Thursday, 9am - 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Crawford can be reached on (571)272-6911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gene Crawford/  
Supervisory Patent Examiner, Art  
Unit 3651

6/18/2009  
RGP